What is claimed is:

1. A method of controlling a pump so as to deliver a particular amount of liquid product, comprising:

driving a motor so as to operate the pump and to thereby deliver the liquid product from a source to a receiving location;

monitoring a drive current of the motor so as to track rotation of the pump's rotor;

counting units of rotation of the pump's rotor; and

stopping the motor when the counted units of rotation reach a specified target count value.

2. The method of claim 1, wherein the monitoring and counting steps include

detecting when the monitored drive current falls below a first threshold;

detecting when the monitored drive current rises above a second threshold, wherein the second threshold is higher than the first threshold; and

increasing the counted units when the monitored drive current rises above the second threshold after having fallen below the first threshold.

3. The method of claim 1, wherein the monitoring and counting steps include

detecting when the monitored drive current falls below a first threshold;

detecting when the monitored drive current rises above a second threshold, wherein the second threshold is higher than the first threshold; and

increasing the counted units when the monitored drive current falls below the first threshold after rising above the second threshold.

4. The method of claim 3, including

determining an average duration of a plurality of prior units of rotation of the pump's rotor;

determining a duration of a current unit of rotation of the pump's rotor;

comparing the determined duration of the current unit with the determined average duration and adjusting the counted units when the comparison meets predefined error detection criteria.

5. The method of claim 3, wherein the monitoring includes sampling the drive current for a duration to produce a sequence of sample values, determining maximum and minimum sample values from the sequence of sample values, and determining the first and second threshold values based on the maximum and minimum sample values.

6. The method of claim 1, wherein the monitoring includes performing a pump calibration, including sampling the drive current for a duration to produce a sequence of sample values, determining maximum and minimum sample values from the sequence of sample values, and determining first and second threshold values based on the maximum and minimum sample values.

7. The method of claim 6, including periodically performing the pump calibration.

8. The method of claim 1, wherein the monitoring includes sampling the drive current at a predefined rate, storing digital values produced by the sampling in a buffer, and computing a running average of the digital values stored in the buffer so as to produce a smoothed current signal.

9. The method of claim 1, wherein the monitoring includes low pass filtering the drive current using both an analog filter and a digital filter.

10. The method of claim 1, including

determining an average duration of a plurality of prior units of rotation of the pump's rotor;

determining a duration of a current unit of rotation of the pump's rotor;

comparing the determined duration of the current unit with the determined average duration and adjusting the counted units when the comparison meets predefined error detection criteria.

11. A pump system, comprising:

a peristaltic pump having a rotor;

a motor configured to drive the peristaltic pump so as to deliver a liquid product from a source to a receiving location;

a controller coupled to the motor and configured to monitor a drive current of the motor so as to track rotation of the pump's rotor;

wherein the controller is further configured to count units of rotation of the pump's rotor, and to stop the motor when the counted units of rotation reach a specified target count value.

12. The pump system of claim 11, wherein the controller is configured to detect when the monitored drive current falls below a first threshold, to detect when the monitored drive current rises above a second threshold, wherein the second threshold is higher than the first threshold, and to increase the counted units when the monitored drive current rises above the second threshold after having fallen below the first threshold.

13. The pump system of claim 11, wherein the controller is configured to detect when the monitored drive current falls below a first threshold, to detect when the monitored drive current rises above a second threshold, wherein the second threshold is higher than the first threshold, and to increase the counted units when the monitored drive current falls below the first threshold after rising above the second threshold.

14. The pump system of claim 13, wherein the controller is further configured to:

determine an average duration of a plurality of prior units of rotation of the pump's rotor;

determine a duration of a current unit of rotation of the pump's rotor;

compare the determined duration of the current unit with the determined average duration and adjust the counted units of rotation of the pump's rotor when the comparison meets predefined error detection criteria.

15. The pump system of claim 13, wherein the controller is configured to sample the drive current for a duration to produce a sequence of sample values, to determine maximum and minimum sample values from the sequence of sample values, and to determine the first and second threshold values based on the maximum and minimum sample values.

16. The pump system of claim 11, wherein the controller is configured to perform a pump calibration, including sampling the drive current for a duration to produce a sequence of sample values, determining maximum and minimum sample values from the sequence of

sample values, and determining first and second threshold values based on the maximum and minimum sample values.

17. The pump system of claim 11, wherein the controller is configured to periodically perform the pump calibration.

18. The pump system of claim 11, wherein the controller is configured to sample the drive current at a predefined rate, store digital values produced by the sampling in a buffer, and compute a running average of the digital values stored in the buffer so as to produce a smoothed current signal.

19. The pump system of claim 11, wherein the controller is configured to low pass filter the drive current using both an analog filter and a digital filter.

20. The pump system of claim 11, wherein the controller is further configured to:

determine an average duration of a plurality of prior units of rotation of the pump's rotor;

determine a duration of a current unit of rotation of the pump's rotor;

compare the determined duration of the current unit with the determined average duration and adjust the counted units of rotation of the pump's rotor when the comparison meets predefined error detection criteria.